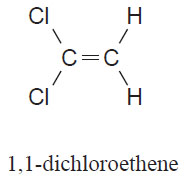
**Polymerisation of alkenes**

**1.** Cling Wrap is a polymer that can be made from the monomer 1,1-dichloroethene.

****

Draw THREE repeating units of the polymer formed.

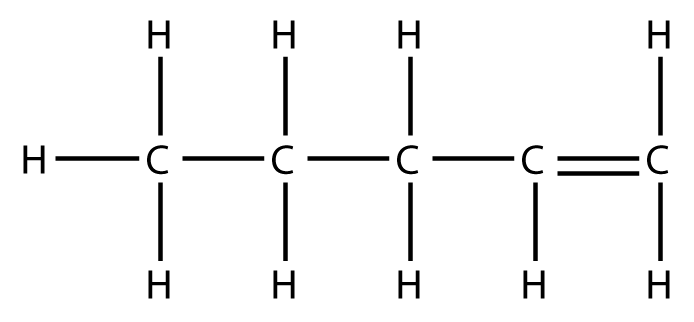
**2.**

|  |  |
| --- | --- |
|  | http://www.chemistryrules.me.uk/candr/but1ene.gif |

**i) Draw TWO repeating units of the polymer formed in reaction 5**

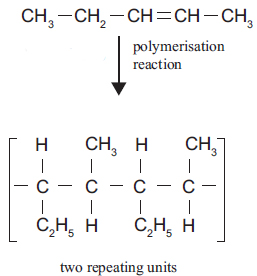
**ii) Compare and contrast the polymer formed in reaction 5 to the polymer formed in the first reaction. In your answer you should explain why the polymers formed in these two reactions are different.**

**3. i)** Draw TWO repeating units of the polymer formed

****

**ii)** Compare and contrast the polymer formed above **(reaction 1)** to the polymer formed in the reaction

(**reaction 2)** below

****

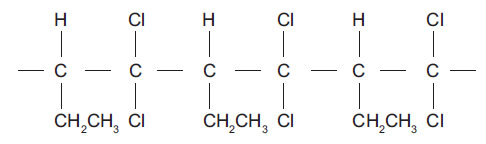
In your answer you should explain why the polymers formed in these two reactions are different.

**4. i)** The molecule tetrafluoroethene, shown below, is the monomer for the polymer commonly known as Teflon.

CF2=CF2

Draw TWO repeating units for the Teflon polymer.

**ii)** The following diagram shows three repeating sections of another polymer.



Draw the structural formula of the monomer molecule used to make this polymer.

**5.** Draw two repeating units of the polymer formed from but-1-ene

**6.** The following diagram shows four repeating sections of the polymer commonly called polypropene. Draw the structural formula of the monomer.

|  |  |
| --- | --- |
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**7.** The molecule (below) undergoes an addition polymerisation reaction to form a polymer. Draw THREE

repeating units for the polymer.



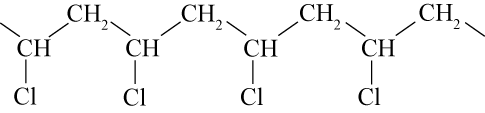
**8.** But-2-ene, CH3–CH=CH–CH3, undergoes an addition polymerisation reaction to form a polymer.

Draw THREE repeating units for the polymer.

**9.** The following diagram shows three repeating sections of a common polymer. Draw the structural formula of the monomer.



10. The following diagram shows four repeating sections of the polymer commonly known as PVC. Draw the structural formula for the monomer.



**11.** Complete the table below by drawing the structural formula of the monomer or polymer (showing two repeating units).

|  |  |
| --- | --- |
| **Monomer molecule** | **Section of the polymer** |
| 90309q5aii  methylpropene |  |
|  | 90309q5ai  polyvinylalcohol |

**12.** Two common polymers are polypropylene and polyvinyl chloride (PVC). A section of each polymer is shown in the table below. Draw the structural formula for the monomer molecule for each polymer.

|  |  |
| --- | --- |
| **Section of the polymer** | **Monomer molecule** |
| 90309q3a  polypropylene |  |
| 90309q3b  polyvinylchloride (PVC) |  |

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